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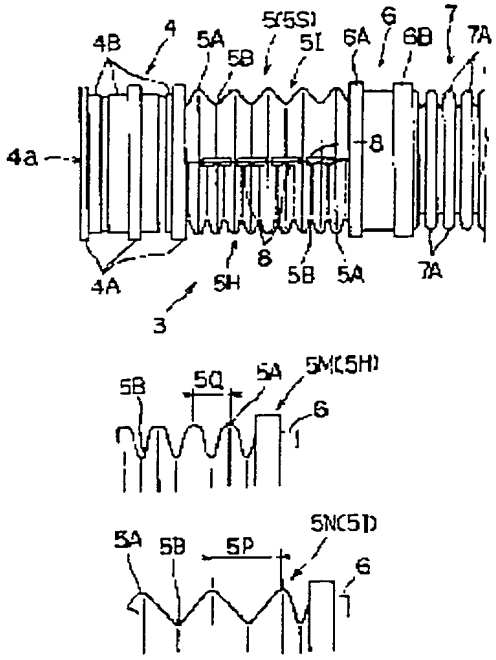
(54) FLEXIBLE HOSE

(57) Abstract:
PROBLEM TO BE SOLVED: To bend a hose with clearance without the tearing or the like, by setting the first pitch between the crests or the valleys positioned inside of a bent part at least bent, larger than the second pitch between the crests or the valleys positioned outside of the bent part.
SOLUTION: The first bellows part 5 has the shape of bellows having the crests 5A and the valleys 5B, and is bendable. The size of the first pitch 5P between the crests 5A, 5A or the valleys 5B, 5B positioned inside the bent part 5S of the first bellows part 5, is set to be almost two times as large as that of the second pitch 5Q between the crests 5A, 5A or the valleys 5B, 5B positioned outside of the bent part. Accordingly in the bending of the bent part 5S, the inside part 5I of the bent part can be contracted with the clearance, and the outside 5H of the bent part can be expanded with the clearance.



LEGAL STATUS

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[Date of extinction of right]

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CLAIMS

[Claim(s)]
[Claim 1] The flexible hose which comes to set up the 1st pitch of the crests which are the flexible hose which make the bellows configuration which has a crest and a trough, and which can be crooked, and are located in the method side of the inside of crookedness in the flection crooked at least, or troughs more greatly than the 2nd pitch of the crests located in the method side of the outside of crookedness, or troughs.
[Claim 2] The flexible hose according to claim 1 which comes to set the magnitude of said 1st pitch as the twice as many abbreviation for the magnitude of the 2nd pitch as this.
[Claim 3] The flexible hose according to claim 1 which comes to set up the magnitude of the radius of curvature of the trough of said bellows more greatly than the magnitude of the radius of curvature of the crest of this bellows while constituting said bellows in the cross-section configuration wave type in alignment with the longitudinal direction of that.
[Claim 4] The flexible hose according to claim 1 which comes to set up the magnitude of the radius of curvature of the trough of said bellows smaller than the magnitude of the radius of curvature of the crest of this bellows while constituting said bellows in the cross-section configuration wave type in alignment with the longitudinal direction of that.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the hose which has the flexibility of the hose made of the product made from an industrial use vinyl chloride, and rubber used as an object for wastewater of a washing machine.
[0002]
[Description of the Prior Art] For example, in using the above-mentioned flexible hose as an object for wastewater of a washing machine, as shown in drawing 1 , it connects the between from the lower parts, such as laundry sink of a washing machine, to the exhaust hose 2 by the side of the side of the body of a washing machine with one flexible hose 3.
[0003] However, since the distance between these both is short, 90 abbreviation must be made the directions of the lower part of the laundry sink of the above-mentioned washing machine and the exhaust hose 2 by the side of the side of the body of a washing machine not only to differ 90 degrees, but to deform the flection of a flexible hose by flexion. Thus, if crookedness is rapid, a certain forge fire, at least by the method flank of the inside of crookedness of a flection, the degree of contraction will become large and the degree of expanding will become large at least by the method flank of the outside of crookedness. For this reason, at least by the method flank of the inside of crookedness of a flection, it became the narrow crookedness by which the part was crushed, and at least by un-arranging [which cannot take a not much large angle of bend], and the method flank of the outside of crookedness of a flection, the bellows section will develop beyond the need and there was inconvenient ** which generates the tear of a hose etc. Although it had connected so that a hose might not receive rotation of laundry sink on the relation which connects a hose to the lower part of the laundry sink of a washing machine as mentioned above especially, in response to a certain amount of turning effort, the hose might receive the force of the direction of a twist, and the tear of a hose etc. might occur further.
[0004] While carrying out 2 easy [of the straight hose] incidentally in order to cancel above-mentioned un-arranging for example Although it is possible to carry out easy [of the bond part material of the L character mold for combining these two hose], and to connect the lower part of the laundry sink of a washing machine, and the connection of the exhaust hose by the side of the side of the body of a washing machine in these three members The approach which must manufacture the bond part material of the L character mold suitable for the angle of bend which changes with washing machines, becomes disadvantageous in a cost side and an attachment working plane, it not only causes the increment in member mark and the increment in a connection part, but cannot enforce easily, and is connected with one flexible hose was the best.
[0005]
[Problem(s) to be Solved by the Invention] The place which this invention tends to solve in view of the above-mentioned situation does not have generating of a tear etc., and is in the point of moreover offering a turnable flexible hose with allowances.
[0006]
[Means for Solving the Problem] This invention set up more greatly than the 2nd pitch of the crests located in the method side of the outside of crookedness, or troughs the 1st pitch of the crests which are the flexible hose which make the bellows configuration which has a crest and a trough, and

which can be crooked, and are located in the method side of the inside of crookedness in the flection crooked at least for the above-mentioned technical-problem solution, or troughs, and constituted the flexible hose. Therefore, since the part which can be made crooked in a compaction side with the part allowances, and is located in the method side of the outside of crookedness increases the amount of expanding when lengthening, so that the pitch increased, it can be made crooked in an expanding side with the part allowances, since the part located in the method side of the inside of crookedness has the large amount of compaction for one pitch when said flexible hose is made crooked.
[0007] It is the optimal when the magnitude of said 1st pitch is set as the twice as many abbreviation for the magnitude of the 2nd pitch as this, and making a flexible hose crooked 90 abbreviation.
[0008] Since the force in which it is added at the time of telescopic motion of a flexible hose by setting up more greatly than the magnitude of the radius of curvature of the crest of this bellows the magnitude of the radius of curvature of the trough of said bellows can be received by the whole arc of a trough while constituting said bellows in the cross-section configuration wave type in alignment with the longitudinal direction of that, said force does not concentrate on a part of arc of a trough.
[0009] While constituting said bellows in the cross-section configuration wave type in alignment with the longitudinal direction of that, by setting up smaller than the magnitude of the radius of curvature of the crest of this bellows the magnitude of the radius of curvature of the trough of said bellows, deformation by the side of contraction of a flexible hose can be performed smoothly, and the contraction limitation of a flexible hose can be extended.
[0010]
[Embodiment of the Invention] The flexible hose 3 of this invention used for drawing 1 by the washing machine is shown. This flexible hose 3 consisted of synthetic resin (for example, polyethylene) etc., and it has connected the other end with the hose 2 for wastewater while it permits rotation of this laundry sink-cum-dehydration tack 1 in the lower limit of laundry sink-cum-the dehydration tack 1 of a washing machine and connects the end of that, where seal processing is carried out. Said hose 2 for wastewater may really be formed in the flexible hose 3, and may be carried out on it.
[0011] The connection 4 equipped with opening 4a for connecting with the end section in the lower limit of laundry sink-cum-said dehydration tack 1 as said flexible hose 3 was shown in drawing 2 - drawing 4 , It consists of the 1st bellows section 5 continuously formed in the termination of this connection 4, the reinforcement section 6 continuously formed in the termination of this flection 5, and the wave type 2nd bellows section 7 continuously formed in the termination of this reinforcement section 6. Said flexible hose 3 whole may be constituted only from the 1st bellows section 5, or you may constitute from a connection 4 and the 1st bellows section 5, and the concrete configuration of a flexible hose is not limited to these.
[0012] Even if **** on the turning effort acts on a connection 4, he is trying for a connection 4 not to deform said connection 4 easily, even if it makes two kinds of lobes 4A and 4B from which the protrusion degree which projects in the method of outside differs have and the turning effort of the metaphor aforementioned laundry sink-cum-the dehydration tack 1 is transmitted.
[0013] As said 1st bellows section 5 is constituted by the thing which carried out the bellows configuration which has crest 5A and trough 5B and which can be crooked and it is shown also in drawing 5 - drawing 8 (drawing 6 is the enlarged drawing of the important section of drawing 5 , and drawing 8 is the enlarged drawing of the important section of drawing 7) the 1st of the crests 5A and 5A located in the method side of the inside of crookedness in flection 5S of this 1st bellows section 5, or Troughs 5B and 5B -- the magnitude of pitch 5P In the time of crookedness of flection 5S which have set as the twice as many abbreviation for the magnitude of 2nd pitch 5Q of the crests 5A and 5A located in the method side of the outside of crookedness, or Troughs 5B and 5B as this, and are shown in drawing 3 While 5I can shorten at least the method flank of the inside of crookedness with allowances, it enables it for 5H to expand at least the method flank of the outside of crookedness with allowances. said 1st [the] -- and also it sets the magnitude of pitch 5P as the twice as many abbreviation for the magnitude of 2nd pitch 5Q as this -- 1.5 times and 2.5 times -- you may set up -- the 1st -- the relation between the magnitude of pitch 5P and the magnitude of 2nd pitch 5Q is not limited to these. On the relation from which the pitch of 5H differs [5I and the method flank of the outside of crookedness] as mentioned above at least in the method flank of the

inside of crookedness, By constituting so that it may have a combinable straight side succeeding a division hose [which were formed with two kinds of metal mold with which the pitches used when manufacturing a hose differ / 5M and 5N] mating face The synthetic-resin tube of the softening condition forced on the inner skin of both [these] metal mold is made to be combined in respect of [said] straight. that is, the tabular rib 8 which buries trough 5B of the hose 3 of the part corresponding to the mating face of both metal mold as shown in drawing 4 -- he is trying to manufacture a hose by constituting so that ... may be formed, and carrying out melting adhesion of hose end-face 5L of the division hose [which were formed by both / these / metal mold / 5M and 5N] mating face 8, i.e., said rib, eight comrades, and a wave type, and the 5L A hose can make it easy to make it not cross to a crest the rib 8 which buries said division hose [5M and 5N] trough 5B, that is, to be crooked by the division hose [5M and 5N] bond part compared with the case where a rib 8 is continuously formed so that a crest may be crossed by forming so that a rib 8 may not continue, at the time of crookedness of the hose shown by drawing 3 . In addition, the manufacture approach of said hose is not limited to this.

[0014] As shown in drawing 5 and drawing 6 , while forming in the wave type in alignment with the longitudinal direction of a hose the configurations of crest 5A and trough 5B where at least said method flank of the outside of crookedness is located in 5H As the magnitude of the radius of curvature of the pars basilaris ossis occipitalis of trough 5B is formed smaller than the magnitude of the radius of curvature of the crowning of crest 5A and as many formation numbers of crest 5A as possible can be formed, at least the method flank of the outside of crookedness enables it to secure many amounts of expanding of 5H. Moreover, as shown in drawing 7 and drawing 8 , while forming in the wave type in alignment with the longitudinal direction of a hose the configurations of crest 5A and trough 5B where at least said method flank of the inside of crookedness is located in 5I, the magnitude of the radius of curvature of the pars basilaris ossis occipitalis of trough 5B is formed smaller than the magnitude of the radius of curvature of the crowning of crest 5A, and it is made be and to contract easy to expand a hose. Moreover, another configurations of crest 5A and trough 5B where at least said method flank of the inside of crookedness is located in 5I are shown in drawing 9 and drawing 10 . That is, since the force in which it is added at the time of telescopic motion of a flexible hose by forming more greatly than the magnitude of the radius of curvature of the crowning of crest 5A the magnitude of the radius of curvature of the pars basilaris ossis occipitalis of trough 5B contrary to the above can be received by the whole arc of a trough, it enables it to avoid that said force concentrates on a part of arc of a trough.

[0015] He is trying not to crook said reinforcement section 6 easily by forming Lobes 6A and 6B in both ends. And said reinforcement section 6 is made into the bond part of said 1st bellows section 5 and 2nd bellows section 7.

[0016] Said 2nd bellows section 7 is made to have **(ed) much lobe 7A outside, and even when variation is in the distance between said reinforcement section 6 and the hose 2 for wastewater, it enables it to absorb this.

[0017]

[Effect of the Invention] According to claim 1, the part located in the method side of the inside of crookedness Since the amount of part compaction with a large pitch can be enlarged, the part which can be crooked in a compaction side with the part allowances, and is located in the method side of the outside of crookedness Since the amount of part expanding with a small pitch can be enlarged, it can be crooked in an expanding side with the part allowances, and the flexible hose which can be used good over a long period of time can be offered, without the tear of a hose like before etc. occurring. And since connection with one flexible hose can be performed only by changing the pitch of the part located in the method side of the inside of crookedness, and the part located in the method side of the outside of crookedness, in an attachment side and a cost side, it can be made advantageous.

[0018] According to claim 3, since the force in which it is added at the time of telescopic motion of a flexible hose can be received by the whole arc of a trough, the bending force of said force not concentrating on a part of arc of a trough, and acting especially on the flexible section can be distributed, and it can be made advantageous in reinforcement, and can be equal to much more prolonged use.

[0019] According to claim 4, since deformation by the side of contraction of a flexible hose can be performed smoothly, the contraction limitation of a flexible hose can be extended, expansion of an angle of bend can be aimed at, and expansion of the use range can be aimed at.

[Translation done.]

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TECHNICAL FIELD

[Field of the Invention] This invention relates to the hose which has the flexibility of the hose made of the product made from an industrial use vinyl chloride, and rubber used as an object for wastewater of a washing machine.

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PRIOR ART

[Description of the Prior Art] For example, in using the above-mentioned flexible hose as an object for wastewater of a washing machine, as shown in drawing 1 , it connects the between from the lower parts, such as laundry sink of a washing machine, to the exhaust hose 2 by the side of the side of the body of a washing machine with one flexible hose 3.
[0003] However, since the distance between these both is short, 90 abbreviation must be made the directions of the lower part of the laundry sink of the above-mentioned washing machine and the exhaust hose 2 by the side of the side of the body of a washing machine not only to differ 90 degrees, but to deform the flection of a flexible hose by flexion. Thus, if crookedness is rapid, a certain forge fire, at least by the method flank of the inside of crookedness of a flection, the degree of contraction will become large and the degree of expanding will become large at least by the method flank of the outside of crookedness. For this reason, at least by the method flank of the inside of crookedness of a flection, it became the narrow crookedness by which the part was crushed, and at least by un-arranging [which cannot take a not much large angle of bend], and the method flank of the outside of crookedness of a flection, the bellows section will develop beyond the need and there was inconvenient ** which generates the tear of a hose etc. Although it had connected so that a hose might not receive rotation of laundry sink on the relation which connects a hose to the lower part of the laundry sink of a washing machine as mentioned above especially, in response to a certain amount of turning effort, the hose might receive the force of the direction of a twist, and the tear of a hose etc. might occur further.
[0004] While carrying out 2 easy [of the straight hose] incidentally in order to cancel above-mentioned un-arranging for example Although it is possible to carry out easy [of the bond part material of the L character mold for combining these two hose], and to connect the lower part of the laundry sink of a washing machine, and the connection of the exhaust hose by the side of the side of the body of a washing machine in these three members The approach which must manufacture the bond part material of the L character mold suitable for the angle of bend which changes with washing machines, becomes disadvantageous in a cost side and an attachment working plane, it not only causes the increment in member mark and the increment in a connection part, but cannot enforce easily, and is connected with one flexible hose was the best.

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EFFECT OF THE INVENTION

[Effect of the Invention] The part which is located in the method side of the inside of crookedness according to claim 1, Since the amount of part compaction with a large pitch can be enlarged, the part which can be crooked in a compaction side with the part allowances, and is located in the method side of the outside of crookedness Since the amount of part expanding with a small pitch can be enlarged, it can be crooked in an expanding side with the part allowances, and the flexible hose which can be used good over a long period of time can be offered, without the tear of a hose like before etc. occurring. And since connection with one flexible hose can be performed only by changing the pitch of the part located in the method side of the inside of crookedness, and the part located in the method side of the outside of crookedness, in an attachment side and a cost side, it can be made advantageous.
[0018] According to claim 3, since the force in which it is added at the time of telescopic motion of a flexible hose can be received by the whole arc of a trough, the bending force of said force not concentrating on a part of arc of a trough, and acting especially on the flexible section can be distributed, and it can be made advantageous in reinforcement, and can be equal to much more prolonged use.
[0019] According to claim 4, since deformation by the side of contraction of a flexible hose can be performed smoothly, the contraction limitation of a flexible hose can be extended, expansion of an angle of bend can be aimed at, and expansion of the use range can be aimed at.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] The place which this invention tends to solve in view of the above-mentioned situation does not have generating of a tear etc., and is in the point of moreover offering a turnable flexible hose with allowances.

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MEANS

[Means for Solving the Problem] This invention set up more greatly than the 2nd pitch of the crests located in the method side of the outside of crookedness, or troughs the 1st pitch of the crests which are the flexible hose which make the bellows configuration which has a crest and a trough, and which can be crooked, and are located in the method side of the inside of crookedness in the flection crooked at least for the above-mentioned technical-problem solution, or troughs, and constituted the flexible hose. Therefore, since the part which can be made crooked in a compaction side with the part allowances, and is located in the method side of the outside of crookedness increases the amount of expanding when lengthening, so that the pitch increased, it can be made crooked in an expanding side with the part allowances, since the part located in the method side of the inside of crookedness has the large amount of compaction for one pitch when said flexible hose is made crooked.
[0007] It is the optimal when the magnitude of said 1st pitch is set as the twice as many abbreviation for the magnitude of the 2nd pitch as this, and making a flexible hose crooked 90 abbreviation.
[0008] Since the force in which it is added at the time of telescopic motion of a flexible hose by setting up more greatly than the magnitude of the radius of curvature of the crest of this bellows the magnitude of the radius of curvature of the trough of said bellows can be received by the whole arc of a trough while constituting said bellows in the cross-section configuration wave type in alignment with the longitudinal direction of that, said force does not concentrate on a part of arc of a trough.
[0009] While constituting said bellows in the cross-section configuration wave type in alignment with the longitudinal direction of that, by setting up smaller than the magnitude of the radius of curvature of the crest of this bellows the magnitude of the radius of curvature of the trough of said bellows, deformation by the side of contraction of a flexible hose can be performed smoothly, and the contraction limitation of a flexible hose can be extended.
[0010]
[Embodiment of the Invention] The flexible hose 3 of this invention used for drawing 1 by the washing machine is shown. This flexible hose 3 consisted of synthetic resin (for example, polyethylene) etc., and it has connected the other end with the hose 2 for wastewater while it permits rotation of this laundry sink-cum-dehydration tack 1 in the lower limit of laundry sink-cum-the dehydration tack 1 of a washing machine and connects the end of that, where seal processing is carried out. Said hose 2 for wastewater may really be formed in the flexible hose 3, and may be carried out on it.
[0011] The connection 4 equipped with opening 4a for connecting with the end section in the lower limit of laundry sink-cum-said dehydration tack 1 as said flexible hose 3 was shown in drawing 2 - drawing 4 , It consists of the 1st bellows section 5 continuously formed in the termination of this connection 4, the reinforcement section 6 continuously formed in the termination of this flection 5, and the wave type 2nd bellows section 7 continuously formed in the termination of this reinforcement section 6. Said flexible hose 3 whole may be constituted only from the 1st bellows section 5, or you may constitute from a connection 4 and the 1st bellows section 5, and the concrete configuration of a flexible hose is not limited to these.
[0012] Even if **** on the turning effort acts on a connection 4, he is trying for a connection 4 not to deform said connection 4 easily, even if it makes two kinds of lobes 4A and 4B from which the protrusion degree which projects in the method of outside differs have and the turning effort of the metaphor aforementioned laundry sink-cum-the dehydration tack 1 is transmitted.

[0013] As said 1st bellows section 5 is constituted by the thing which carried out the bellows configuration which has crest 5A and trough 5B and which can be crooked and it is shown also in drawing 5 - drawing 8 (drawing 6 is the enlarged drawing of the important section of drawing 5 , and drawing 8 is the enlarged drawing of the important section of drawing 7) the 1st of the crests 5A and 5A located in the method side of the inside of crookedness in flection 5S of this 1st bellows section 5, or Troughs 5B and 5B -- the magnitude of pitch 5P In the time of crookedness of flection 5S which have set as the twice as many abbreviation for the magnitude of 2nd pitch 5Q of the crests 5A and 5A located in the method side of the outside of crookedness, or Troughs 5B and 5B as this, and are shown in drawing 3 While 5I can shorten at least the method flank of the inside of crookedness with allowances, it enables it for 5H to expand at least the method flank of the outside of crookedness with allowances. said 1st [the] -- and also it sets the magnitude of pitch 5P as the twice as many abbreviation for the magnitude of 2nd pitch 5Q as this -- 1.5 times and 2.5 times -- you may set up -- the 1st -- the relation between the magnitude of pitch 5P and the magnitude of 2nd pitch 5Q is not limited to these. On the relation from which the pitch of 5H differs [5I and the method flank of the outside of crookedness] as mentioned above at least in the method flank of the inside of crookedness, By constituting so that it may have a combinable straight side succeeding a division hose [which were formed with two kinds of metal mold with which the pitches used when manufacturing a hose differ / 5M and 5N] mating face The synthetic-resin tube of the softening condition forced on the inner skin of both [these] metal mold is made to be combined in respect of [said] straight. that is, the tabular rib 8 which buries trough 5B of the hose 3 of the part corresponding to the mating face of both metal mold as shown in drawing 4 -- he is trying to manufacture a hose by constituting so that ... may be formed, and carrying out melting adhesion of hose end-face 5L of the division hose [which were formed by both / these / metal mold / 5M and 5N] mating face 8, i.e., said rib, eight comrades, and a wave type, and the 5L A hose can make it easy to make it not cross to a crest the rib 8 which buries said division hose [5M and 5N] trough 5B, that is, to be crooked by the division hose [5M and 5N] bond part compared with the case where a rib 8 is continuously formed so that a crest may be crossed by forming so that a rib 8 may not continue, at the time of crookedness of the hose shown by drawing 3 . In addition, the manufacture approach of said hose is not limited to this.

[0014] As shown in drawing 5 and drawing 6 , while forming in the wave type in alignment with the longitudinal direction of a hose the configurations of crest 5A and trough 5B where at least said method flank of the outside of crookedness is located in 5H As the magnitude of the radius of curvature of the pars basilaris ossis occipitalis of trough 5B is formed smaller than the magnitude of the radius of curvature of the crowning of crest 5A and as many formation numbers of crest 5A as possible can be formed, at least the method flank of the outside of crookedness enables it to secure many amounts of expanding of 5H. Moreover, as shown in drawing 7 and drawing 8 , while forming in the wave type in alignment with the longitudinal direction of a hose the configurations of crest 5A and trough 5B where at least said method flank of the inside of crookedness is located in 5I, the magnitude of the radius of curvature of the pars basilaris ossis occipitalis of trough 5B is formed smaller than the magnitude of the radius of curvature of the crowning of crest 5A, and it is made be and to contract easy to expand a hose. Moreover, another configurations of crest 5A and trough 5B where at least said method flank of the inside of crookedness is located in 5I are shown in drawing 9 and drawing 10 . That is, since the force in which it is added at the time of telescopic motion of a flexible hose by forming more greatly than the magnitude of the radius of curvature of the crowning of crest 5A the magnitude of the radius of curvature of the pars basilaris ossis occipitalis of trough 5B contrary to the above can be received by the whole arc of a trough, it enables it to avoid that said force concentrates on a part of arc of a trough.

[0015] He is trying not to crook said reinforcement section 6 easily by forming Lobes 6A and 6B in both ends. And said reinforcement section 6 is made into the bond part of said 1st bellows section 5 and 2nd bellows section 7.

[0016] Said 2nd bellows section 7 is made to have **(ed) much lobe 7A outside, and even when variation is in the distance between said reinforcement section 6 and the hose 2 for wastewater, it enables it to absorb this.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] A washing machine is a notch perspective view a part.
[Drawing 2] The side elevation of a flexible hose
[Drawing 3] The side elevation showing the condition that the flexible hose was crooked
[Drawing 4] The perspective view which disassembled the flexible hose
[Drawing 5] The side elevation showing one division hose
[Drawing 6] The enlarged drawing showing the important section of drawing 5
[Drawing 7] The side elevation showing the division hose of another side
[Drawing 8] The enlarged drawing showing the important section of drawing 7
[Drawing 9] The side elevation showing another configuration of the division hose of another side
[Drawing 10] The enlarged drawing showing the important section of drawing 9
[Description of Notations]
1 Dehydration Tack
2 Hose for Wastewater
3 Flexible Hose
4 Connection
4a Opening
4A Connection
5 1st Bellows Section
5A Crest
5B Trough
5H About the method flank of the outside of crookedness
5I About the method flank of the inside of crookedness
5L Hose end face
5M and 5N Division hose
5P The 1st pitch
5Q The 2nd pitch
6 Reinforcement Section
6A and 6B Lobe
7 2nd Bellows Section
7A Lobe
8 Rib

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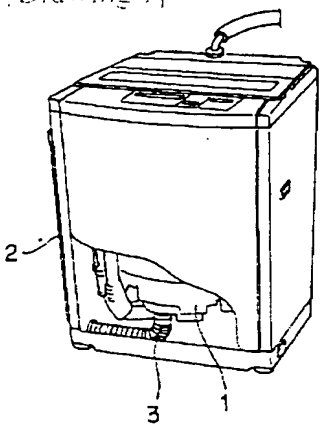
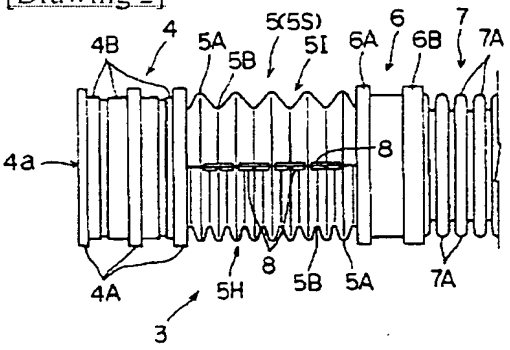
DRAWINGS

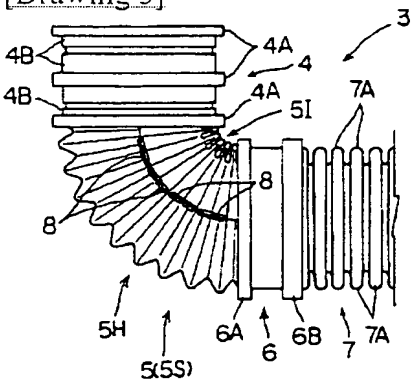
[Drawing 1]



[Drawing 2]



[Drawing 3]



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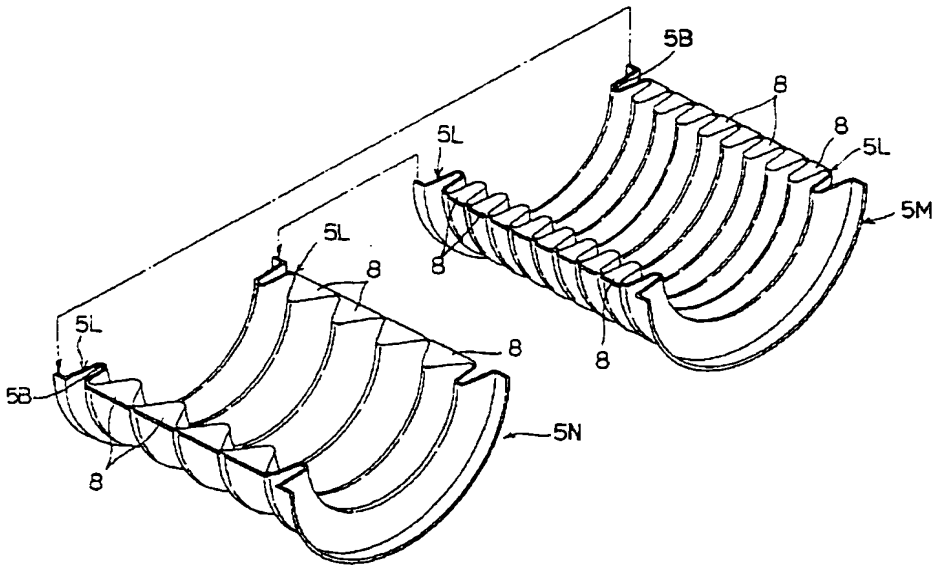

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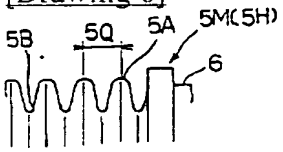
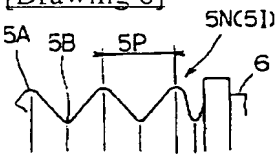
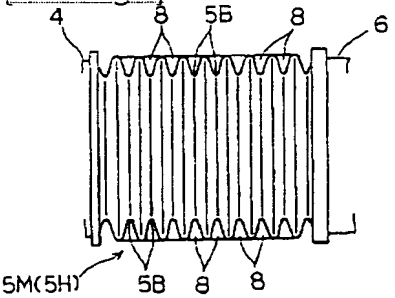


[Drawing 8]



[Drawing 5]



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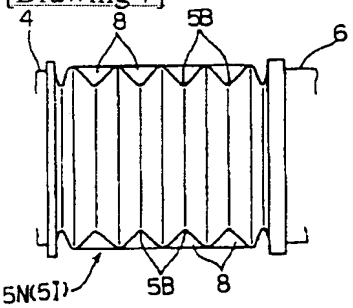

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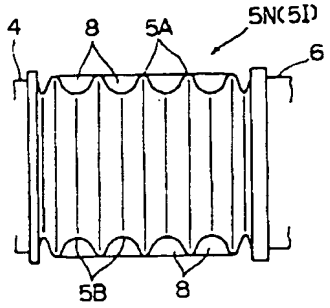
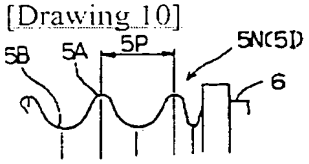


[Drawing 10]



[Translation done.]